

CHANNEL 12 TEST:

1. Verify that the test system is configured as shown in Figure 7, and 7A _____.
2. Verify **CW GENERATOR 1** is OFF _____.
3. Select **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for Channel 12 operation _____.
4. Adjust **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the input connector, Input A, of the EUT _____.
5. Adjust the **CW GENERATOR 2** for 207.80 MHz _____.
6. Adjust the **CW GENERATOR 2** for +30 dBmV (90 dBμV) at the input connector, Input B, of the EUT _____.
7. Select the EUT to operate from the A input connector _____.
8. Adjust the VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
9. From the VM 700A, measure the injected isolation frequency reference level:

FREQUENCY (MHz)

EMISSION LEVEL (dBmV)

≈2.55 MHz

10. Turn-off **CW GENERATOR 2** _____.
11. Turn-on **CW GENERATOR 1** to 207.80 MHz _____.
12. Using **CW GENERATOR 1**, adjust output level until isolation frequency reference level (Step 9) is matched.

CW GENERATOR 1 OUTPUT LEVEL (dBmV)

13. **CW GENERATOR 1 OUTPUT LEVEL** (Step 12) - cable loss _____ = isolation substitute signal level at EUT = _____ dBmV.
14. **Isolation = 30 dBmV - level recorded in Step 13 = _____ dB.**
15. Turn-off **CW GENERATOR 1** _____.

CHANNEL 53 TEST:

1. Verify that the test system is configured as shown in Figure 7, and 7A _____.
2. Verify **CW GENERATOR 1** is OFF _____.
3. Select **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for Channel 53 operation _____.
4. Adjust **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the input connector, Input A, of the EUT _____.
5. Adjust the **CW GENERATOR 2** for 399.80 MHz _____.
6. Adjust the **CW GENERATOR 2** for +30 dBmV (90 dBμV) at the input connector, Input B, of the EUT _____.
7. Select the EUT to operate from the A input connector _____.
8. Adjust the VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
9. From the VM 700A, measure the injected isolation frequency reference level:

FREQUENCY (MHz)

EMISSION LEVEL (dBmV)

≈2.55 MHz

10. Turn-off **CW GENERATOR 2** _____.

11. Turn-on CW GENERATOR 1 to 399.80 MHz _____.
12. Using CW GENERATOR 1, adjust output level until isolation frequency reference level (Step 9) is matched.
CW GENERATOR 1 OUTPUT LEVEL (dBmV)
13. CW GENERATOR 1 OUTPUT LEVEL (Step 12) - cable loss _____ = isolation substitute signal level at EUT = _____ dBmV.
14. Isolation = 30 dBmV - level recorded in Step 13 = _____ dB.
15. Turn-off CW GENERATOR 1 _____.

CHANNEL 74 TEST:

1. Verify that the test system is configured as shown in Figure 7, and 7A _____.
2. Verify CW GENERATOR 1 is OFF _____.
3. Select TV SIGNAL GENERATOR (Baseband Generator and Modulator) for Channel 74 operation _____.
4. Adjust TV SIGNAL GENERATOR (Baseband Generator and Modulator) for 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the input connector, Input A, of the EUT _____.
5. Adjust the CW GENERATOR 2 for 525.80 MHz _____.
6. Adjust the CW GENERATOR 2 for +30 dBmV (90 dBμV) at the input connector, Input B, of the EUT _____.
7. Select the EUT to operate from the A input connector _____.
8. Adjust the VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
9. From the VM 700A, measure the injected isolation frequency reference level:

FREQUENCY (MHz)

≈2.55 MHz

EMISSION LEVEL (dBmV)

10. Turn-off CW GENERATOR 2 _____.
11. Turn-on CW GENERATOR 1 to 525.80 MHz _____.
12. Using CW GENERATOR 1, adjust output level until isolation frequency reference level (Step 9) is matched.
CW GENERATOR 1 OUTPUT LEVEL (dBmV)

13. CW GENERATOR 1 OUTPUT LEVEL (Step 12) - cable loss _____ = isolation substitute signal level at EUT = _____ dBmV.
14. Isolation = 30 dBmV - level recorded in Step 13 = _____ dB.
15. Turn-off CW GENERATOR 1 _____.

A/C TEST

CHANNEL 3 TEST:

1. Verify that the test system is configured as shown in Figure 7, and 7A _____.
2. Verify CW GENERATOR 1 is OFF _____.

3. Select **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for Channel 3 operation _____.
4. Adjust **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the input connector, Input B, of the EUT _____.
5. Adjust the **CW GENERATOR 2** for 63.80 MHz _____.
6. Adjust the **CW GENERATOR 2** for +30 dBmV (90 dBμV) at the input connector, Input A, of the EUT _____.
7. Select the EUT to operate from the B input connector _____.
8. Adjust the VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
9. From the VM 700A, measure the injected isolation frequency reference level:

FREQUENCY (MHz)

EMISSION LEVEL (dBmV)

≈2.55 MHz

10. Turn-off CW GENERATOR 2 _____.
11. Turn-on CW GENERATOR 1 to 63.80 MHz _____.
12. Using **CW GENERATOR 1**, adjust output level until isolation frequency reference level (Step 9) is matched.

CW GENERATOR 1 OUTPUT LEVEL (dBmV)

13. CW GENERATOR 1 OUTPUT LEVEL (Step 12) - cable loss _____ = isolation substitute signal level at EUT = _____ dBmV.
14. Isolation = 30 dBmV - level recorded in Step 13 = _____ dB.
15. Turn-off CW GENERATOR 1 _____.

CHANNEL 12 TEST:

1. Verify that the test system is configured as shown in Figure 7, and 7A _____.
2. Verify **CW GENERATOR 1** is OFF _____.
3. Select **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for Channel 12 operation _____.
4. Adjust **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the input connector, Input B, of the EUT _____.
5. Adjust the **CW GENERATOR 2** for 207.80 MHz _____.
6. Adjust the **CW GENERATOR 2** for +30 dBmV (90 dBμV) at the input connector, Input A, of the EUT _____.
7. Select the EUT to operate from the B input connector _____.
8. Adjust the VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
9. From the VM 700A, measure the injected isolation frequency reference level:

FREQUENCY (MHz)

EMISSION LEVEL (dBmV)

≈2.55 MHz

10. Turn-off CW GENERATOR 2 _____.
11. Turn-on CW GENERATOR 1 to 207.80 MHz _____.
12. Using **CW GENERATOR 1**, adjust output level until isolation frequency reference level (Step 9) is matched.

CW GENERATOR 1 OUTPUT LEVEL (dBmV)

13. CW GENERATOR 1 OUTPUT LEVEL (Step 12) - cable loss _____ = isolation substitute signal level at EUT = _____ dBmV.
14. Isolation = 30 dBmV - level recorded in Step 13 = _____ dB.
15. Turn-off CW GENERATOR 1 _____.

CHANNEL 53 TEST:

1. Verify that the test system is configured as shown in Figure 7, and 7A _____.
2. Verify **CW GENERATOR 1** is OFF _____.
3. Select **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for Channel 53 operation _____.
4. Adjust **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the input connector, Input B, of the EUT _____.
5. Adjust the **CW GENERATOR 2** for 399.80 MHz _____.
6. Adjust the **CW GENERATOR 2** for +30 dBmV (90 dBμV) at the input connector, Input A, of the EUT _____.
7. Select the EUT to operate from the B input connector _____.
8. Adjust the VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
9. From the VM 700A, measure the injected isolation frequency reference level:

FREQUENCY (MHz)
≈2.55 MHz

EMISSION LEVEL (dBmV)

10. Turn-off CW GENERATOR 2 _____.
11. Turn-on CW GENERATOR 1 to 399.80 MHz _____.
12. Using **CW GENERATOR 1**, adjust output level until isolation frequency reference level (Step 9) is matched.

CW GENERATOR 1 OUTPUT LEVEL (dBmV)

13. CW GENERATOR 1 OUTPUT LEVEL (Step 12) - cable loss _____ = isolation substitute signal level at EUT = _____ dBmV.
14. Isolation = 30 dBmV - level recorded in Step 13 = _____ dB.
15. Turn-off CW GENERATOR 1 _____.

CHANNEL 74 TEST:

1. Verify that the test system is configured as shown in Figure 7, and 7A _____.
2. Verify **CW GENERATOR 1** is OFF _____.
3. Select **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for Channel 74 operation _____.
4. Adjust **TV SIGNAL GENERATOR** (Baseband Generator and Modulator) for 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the input connector, Input B, of the EUT _____.
5. Adjust the **CW GENERATOR 2** for 525.80 MHz _____.
6. Adjust the **CW GENERATOR 2** for +30 dBmV (90 dBμV) at the input connector, Input A, of the EUT _____.
7. Select the EUT to operate from the B input connector _____.

8. Adjust the VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
9. From the VM 700A, measure the injected isolation frequency reference level:

FREQUENCY (MHz)

≈2.55 MHz

EMISSION LEVEL (dBmV)

10. Turn-off CW GENERATOR 2 _____.
11. Turn-on CW GENERATOR 1 to 525.80 MHz _____.
12. Using **CW GENERATOR 1**, adjust output level until isolation frequency reference level (Step 9) is matched.

CW GENERATOR 1 OUTPUT LEVEL (dBmV)

13. CW GENERATOR 1 OUTPUT LEVEL (Step 12) - cable loss _____ = isolation substitute signal level at EUT = _____ dBmV.
14. Isolation = 30 dBmV - level recorded in Step 13 = _____ dB.
15. Turn-off CW GENERATOR 1 _____.

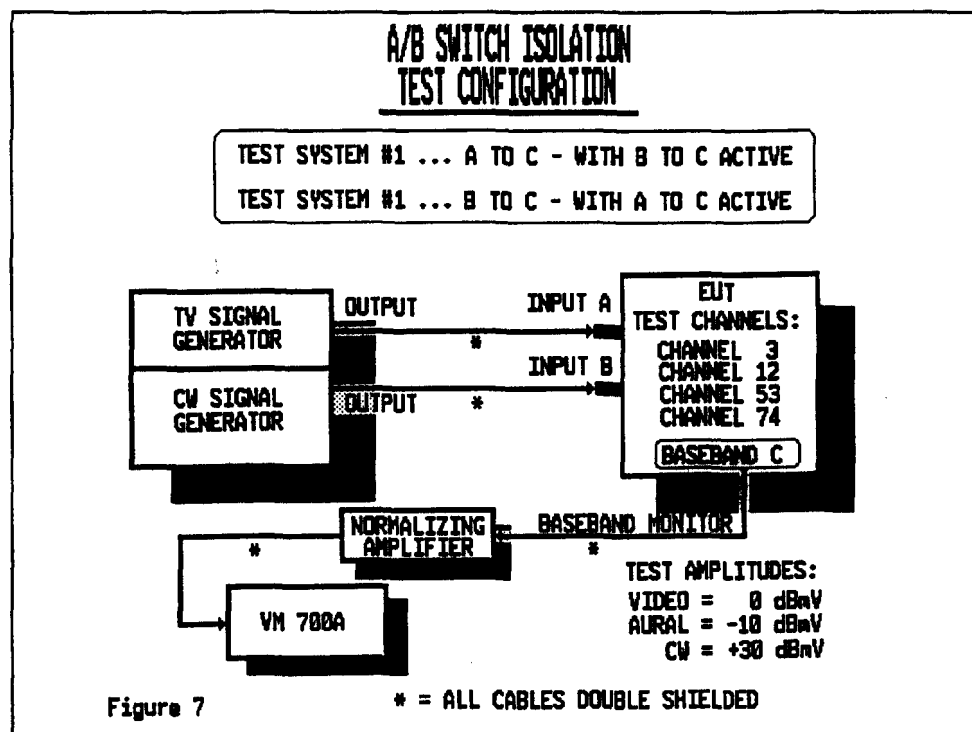
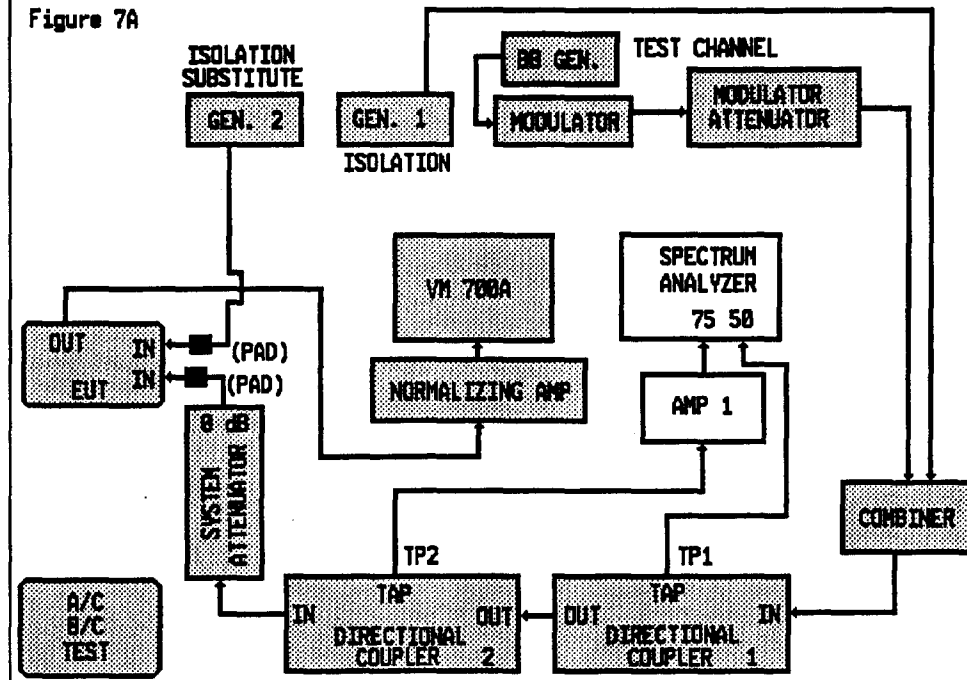


Figure 7A



A/B SWITCH TEST
VCR INPUT TO OUTPUT PORT INTERNAL SWITCH ISOLATION
(VCR's only)

EUT# _____ DATE: _____ EUT TYPE: _____

CALIBRATION:

Measure the gain from the EUT output connector through the preamplifier to the spectrum analyzer for the test channel. See Figure 8.

GAIN for Channel 3 (63.80 MHz) ... _____ dB

A/C TEST

CHANNEL 3 TEST:

1. Verify that the test system is configured as shown in Figure 8 _____.
2. Insert test tape and turn-on EUT to Channel 3 _____.
3. Adjust the CW generator for 63.80 MHz _____.
4. Adjust the CW generator for +30 dBmV (90 dB μ V) at the EUT input connector _____.
5. Attach CW generator output to EUT A input connector _____.
6. Select the EUT to operate in the TAPE PLAY mode _____.
7. Measure the CW signal level at the C output connector port.
C Port level: _____ dBmV
8. minus CH 3 gain = - _____ dB
9. equals level at EUT _____ dBmV
10. Isolation equals 30 dBmV - level at EUT _____ = _____ dB.

A/B SWITCH ISOLATION TEST CONFIGURATION

(VCR'S ONLY)

TEST SYSTEM #2 ... A TO C - WITH B TO C ACTIVE

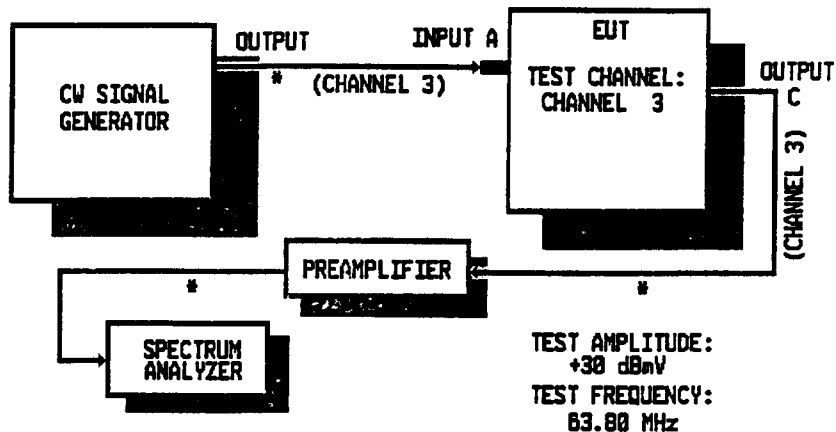


Figure 8

* = ALL CABLES DOUBLE SHIELDED

A/B SWITCH ISOLATION TEST CONFIGURATION

TEST SYSTEM #2
(VCR'S ONLY)

TEST CHANNEL:
CHANNEL 3
TEST AMPLITUDE:
+30 dBmV
TEST FREQUENCY:
63.80 MHz

ISOLATION TESTS:
ISOLATION FROM A TO C,
WITH B TO C ACTIVE.

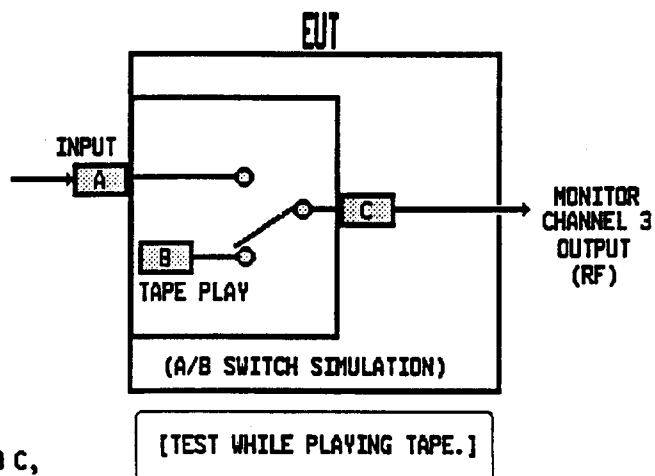


Figure 5

**DPU BACKFEED
DATA SHEET**

EUT #: _____ Date: _____ EUT Type: _____

(Note: Spectrum Analyzer settings: RES Bw =
30 kHz, VBw = 1 kHz.)

1. Verify test configuration as shown in **Figure E** _____.
2. Set **BB Generator** for **10 IRE** _____.
3. Set **Modulator** for **Channel #6** _____.
4. Adjust **Modulator Attenuator** to **18.0 dB** _____.
(Pre-calibrated to produce +15 dBmV Video Carrier and +5 dBmV Aural Carrier at the EUT input.)
5. Adjust **CW Generator** for **85.80 MHz** _____.
6. Adjust **CW Generator** for **23.8 dBmV** _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
7. While monitoring TP1, measure and record **maximized** signal level detected at 85.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>85.80</u>	<u> </u>

8. Set **Baseband Generator** and **Modulator** for **Channel #12, 10 IRE** _____.
9. Adjust **Modulator Attenuator** to **18.0 dB** _____.
(Pre-calibrated to produce +15 dBmV Video Carrier and +5 dBmV Aural Carrier at the EUT input.)
10. Adjust **CW Generator** for **207.80 MHz** _____.
11. Adjust **CW Generator** for **14.3 dBmV** _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
12. While monitoring TP1, measure and record **maximized** signal level detected at 207.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>207.80</u>	<u> </u>

13. Set **Baseband Generator** and **Modulator** for **Channel #78, 10 IRE** _____.
14. Adjust **Modulator Attenuator** to **13.0 dB** _____.
(Pre-calibrated to produce +15 dBmV Video Carrier and +5 dBmV Aural Carrier at the EUT input.)
15. Adjust **CW Generator** for **549.80 MHz** _____.
16. Adjust **CW Generator** for **10.3 dBmV** _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
17. While monitoring TP1, measure and record **maximized** emission level detected at 549.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>549.80</u>	<u> </u>

18. Set **Baseband Generator** and **Modulator** for **Channel #59**
(Broadcast), 10 IRE _____.
19. Adjust **Modulator Attenuator** to **20.0 dB** _____.

(Pre-calibrated to produce +15 dBmV Video Carrier and +5 dBmV Aural Carrier at the EUT input.)

20. Adjust CW Generator for 743.80 MHz _____.
21. Adjust CW Generator for 10.9 dBmV _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
22. While monitoring TP1, measure and record **maximized** emission level detected at 743.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>743.80</u>	_____

23. Set BB Generator for 10 IRE _____.
24. Set Modulator for Channel #6 _____.
25. Adjust Modulator Attenuator to 33.0 dB _____.
(Pre-calibrated to produce 0 dBmV Video Carrier and -10.0 dBmV Aural Carrier at the EUT input.)
26. Adjust CW Generator for 85.80 MHz _____.
27. Adjust CW Generator for 23.8 dBmV _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
28. While monitoring TP1, measure and record **maximized** emission level detected at 85.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>85.80</u>	_____

29. Set Baseband Generator and Modulator for Channel #12, 10 IRE _____.
30. Adjust Modulator Attenuator to 33.0 dB _____.
(Pre-calibrated to produce 0 dBmV Video Carrier and -10.0 dBmV Aural Carrier at the EUT input.)
31. Adjust CW Generator for 207.80 MHz _____.
32. Adjust CW Generator for 14.3 dBmV _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
33. While monitoring TP1, measure and record **maximized** emission level detected at 207.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>207.80</u>	_____

34. Set Baseband Generator and Modulator for Channel #78, 10 IRE _____.
35. Adjust Modulator Attenuator to 28.0 dB _____.
(Pre-calibrated to produce 0 dBmV Video Carrier and -10.0 dBmV Aural Carrier at the EUT input.)
36. Adjust CW Generator for 549.80 MHz _____.
37. Adjust CW Generator for 10.3 dBmV _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
38. While monitoring TP1, measure and record **maximized** emission level detected at 549.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>549.80</u>	_____

39. Set Baseband Generator and Modulator for Channel #59 _____.

- (Broadcast) _____.
40. Adjust Modulator Attenuator to 35.0 dB _____.
(Pre-calibrated to produce 0 dBmV Video Carrier and -10 dBmV Aural Carrier at the EUT input.)
 41. Adjust CW Generator for 743.80 MHz _____.
 42. Adjust CW Generator for 10.9 dBmV _____.
(Pre-calibrated to produce 100 mV/m at EUT.)
 43. While monitoring TP1, measure and record maximized emission level detected at 743.80 MHz.

<u>Frequency (MHz)</u>	<u>Indicated Level (dBmV)</u>
<u>743.80</u>	<u> </u>

CALIBRATION DATA FOR SIGNAL LOSS

[DPU BACKFEED FROM CABLE END (EUT INPUT) THROUGH SYSTEM ATTENUATOR; THROUGH DIRECTIONAL COUPLER (INPUT-TO-TAP OUTPUT); THROUGH AMPLIFIER; TO THE SPECTRUM ANALYZER INPUT (50Ω CONNECTOR).] SEE FIGURE E.

FREQUENCY (MHz)	INPUT (dBmV)	READING (dBmV)	GAIN (dB)
85.80	0.0	14.4	14.4
207.80	0.0	13.7	13.7
549.80	0.0	8.3	8.3
743.80	0.0	4.3	4.3

CW GENERATOR SETTING CALIBRATION FOR 100 mV/m at EUT

1. Channel 6	.....	<u>23.8</u>	dBmV.
2. Channel 12	.....	<u>14.3</u>	dBmV.
3. Channel 78	.....	<u>10.3</u>	dBmV.
4. Channel 59 (Broadcast)	....	<u>10.9</u>	dBmV.

DPU BACKFEED SYSTEM CONFIGURATION

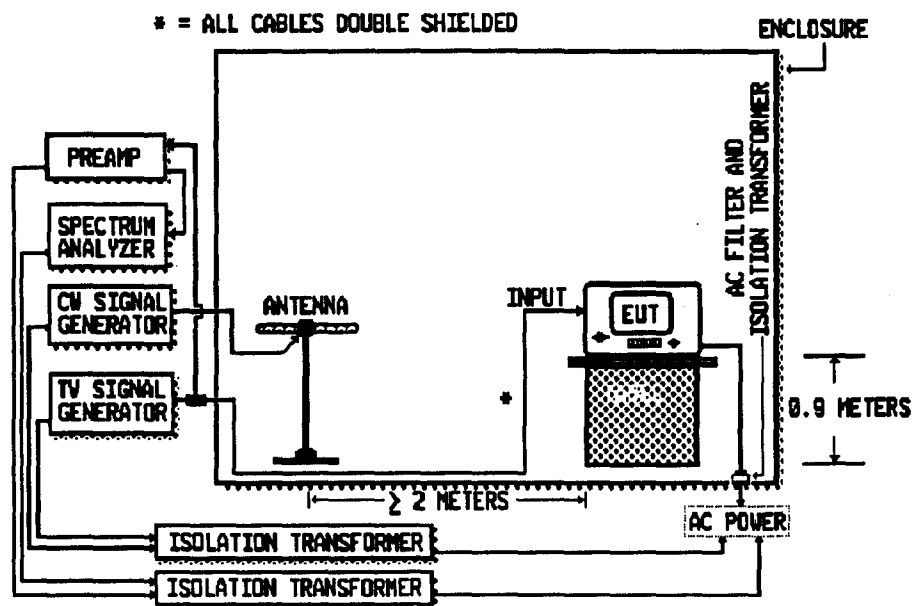


FIGURE 8

DPU BACKFEED EUT CONFIGURATION

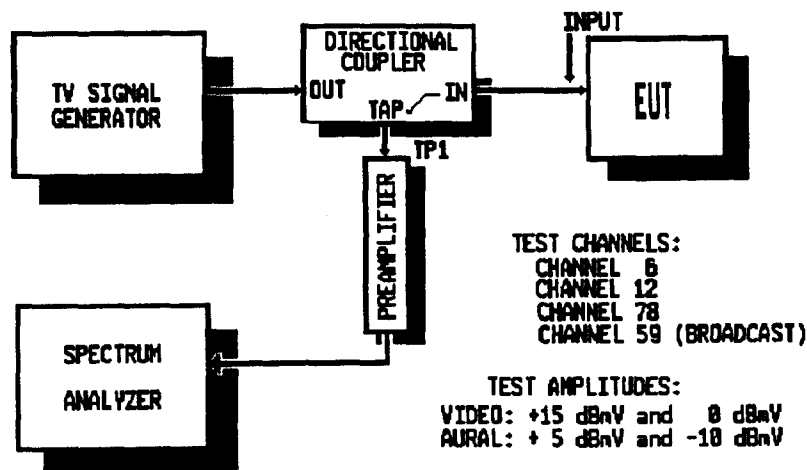


FIGURE 9

VCR THROUGH-LOSS TEST
(VCR's only)

EUT# _____ DATE: _____ EUT TYPE: _____

CHANNEL 3 TEST:

1. Verify that the test system is configured as shown in Figure 11 _____.
2. Adjust the CW generator for 61.25 MHz _____.
3. Adjust the CW generator for +10 dBmV at the EUT input connector _____.
4. Attach CW generator output to EUT A input connector _____.
5. Select the EUT for Channel 3 operation _____.
6. Select EUT for pass-through (input to output) _____.
7. Measure the CW signal level at the C output connector port.
C Port level: _____ dBmV
8. Through-loss equals 10 dBmV - level at analyzer input _____
dBmV - cable loss _____ dB = _____ dB.

CHANNEL 12 TEST:

1. Verify that the test system is configured as shown in Figure 11 _____.
2. Adjust the CW generator for 205.25 MHz _____.
3. Adjust the CW generator for +10 dBmV at the EUT input connector _____.
4. Attach CW generator output to EUT A input connector _____.
5. Select the EUT for Channel 3 operation _____.
6. Select EUT for pass-through (input to output) _____.
7. Measure the CW signal level at the C output connector port.
C Port level: _____ dBmV
8. Through-loss equals 10 dBmV - level at analyzer input _____
dBmV - cable loss _____ dB = _____ dB.

CHANNEL 53 TEST:

1. Verify that the test system is configured as shown in Figure 11 _____.
2. Adjust the CW generator for 397.25 MHz _____.
3. Adjust the CW generator for +10 dBmV at the EUT input connector _____.
4. Attach CW generator output to EUT A input connector _____.
5. Select the EUT for Channel 3 operation _____.
6. Select EUT for pass-through (input to output) _____.
7. Measure the CW signal level at the C output connector port.
C Port level: _____ dBmV
8. Through-loss equals 10 dBmV - level at analyzer input _____
dBmV - cable loss _____ dB = _____ dB.

CHANNEL 74 TEST:

1. Verify that the test system is configured as shown in Figure 11 _____.
2. Adjust the CW generator for 523.25 MHz _____.
3. Adjust the CW generator for +10 dBmV at the EUT input connector _____.
4. Attach CW generator output to EUT A input connector _____.
5. Select the EUT for Channel 3 operation _____.
6. Select EUT for pass-through (input to output) _____.
7. Measure the CW signal level at the C output connector port.
C Port level: _____ dBmV
8. Through-loss equals 10 dBmV - level at analyzer input _____
dBmV - cable loss _____ dB = _____ dB.

VCR THROUGH-LOSS TEST CONFIGURATION

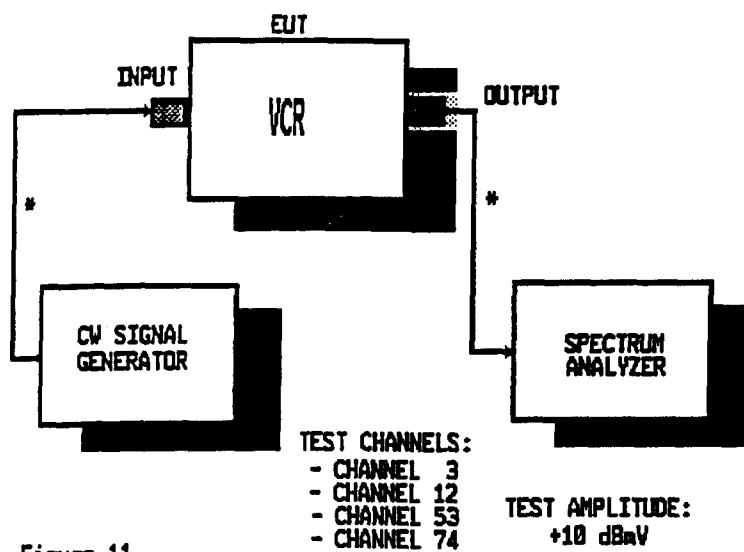


Figure 11

**ADJACENT CHANNEL REJECTION
DATA SHEET**

EUT #: _____ Date: _____ EUT Type: _____

(Note: System Attenuator set to 0 dB.
Spectrum Analyzer settings: RES Bw = 300 kHz,
VBw = 3 MHz.)

CALIBRATING THE VM 700A

1. Verify test system as shown in Figure B _____.
2. Verify Matrix Generator is OFF _____.
3. Verify Gen. 1 is OFF _____.
4. Turn on EUT and select for Channel 3 operation.
5. Set BB Generator and Modulator for Channel #3, 100 IRE _____.
6. Set Modulator Attenuator for 21.5 dB _____.
7. Normalize the baseband input to the VM 700A, 140 IRE, using the Normalizing Amplifier, and the "WAVEFORM" selection on the VM 700A.

INITIAL CALIBRATION and MEASUREMENTS:

8. Set Baseband Generator and Modulator for Channel 3, 10 IRE _____.
9. Set Modulator Attenuator for 22.3 dB _____.
(+10 dBmV Video, and 0 dBmV Aural at EUT.)
10. Adjust Gen. 2 for 58.83 MHz and 15.6 dBmV output _____.
(-2.0 dBmV, lower channel Color at EUT.)
11. Verify 58.83 MHz level at TP1 \approx -14.6 dBmV _____.
12. Verify 61.25 MHz level at TP1 \approx - 3.3 dBmV _____.
13. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
14. From the VM 700A, measure the adjacent channel component within the baseband and record its amplitude:

<u>FREQUENCY (MHz)</u>	<u>EMISSION LEVEL (dBmV)</u>
<u>\approx2.42</u>	_____
15. Adjust Gen. 2 to 63.76 MHz _____.
16. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

<u>FREQUENCY (MHz)</u>	<u>GENERATOR LEVEL (dBmV)</u>
<u>\approx2.42</u>	_____
17. Adjust Gen. 2 for 59.75 MHz and 20.8 dBmV output _____.
(+3.0 dBmV, lower channel Aural at EUT.)
18. Verify 59.75 MHz level at TP1 \approx -10.2 dBmV _____.
19. Verify 61.25 MHz level at TP1 \approx - 3.6 dBmV _____.
20. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
21. From the VM 700A, measure the adjacent channel component within the baseband and record its amplitude:

- | | |
|------------------------|------------------------------|
| <u>FREQUENCY (MHz)</u> | <u>EMISSION LEVEL (dBmV)</u> |
| <u>≈1.50</u> | |
22. Adjust Gen. 2 to 62.75 MHz _____.
23. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:
- | | |
|------------------------|-------------------------------|
| <u>FREQUENCY (MHz)</u> | <u>GENERATOR LEVEL (dBmV)</u> |
| <u>≈1.50</u> | |
24. Adjust Gen. 2 for 67.25 MHz and 31.2 dBmV output _____.
(+13.0 dBmV, upper channel Video at EUT.)
25. Verify 67.25 MHz level at TP1 ≈ -0.5 dBmV _____.
26. Verify 61.25 MHz level at TP1 ≈ -3.0 dBmV _____.
27. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
28. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:
- | | |
|------------------------|------------------------------|
| <u>FREQUENCY (MHz)</u> | <u>EMISSION LEVEL (dBmV)</u> |
| <u>≈3.00</u> | |
29. Adjust Gen. 2 to 64.25 MHz _____.
30. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:
- | | |
|------------------------|-------------------------------|
| <u>FREQUENCY (MHz)</u> | <u>GENERATOR LEVEL (dBmV)</u> |
| <u>≈3.00</u> | |
31. **Set Baseband Generator and Modulator for Channel 12, 10 IRE**
32. Set Modulator Attenuator for 23.5 dB _____.
(+10 dBmV Video, and 0 dBmV Aural at EUT.)
33. Adjust Gen. 2 for 202.83 MHz and 16.2 dBmV output _____.
(-2.0 dBmV, lower channel Color at EUT.)
34. Verify 202.83 MHz level at TP1 ≈ -14.0 dBmV _____.
35. Verify 205.25 MHz level at TP1 ≈ - 2.7 dBmV _____.
36. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
37. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:
- | | |
|------------------------|------------------------------|
| <u>FREQUENCY (MHz)</u> | <u>EMISSION LEVEL (dBmV)</u> |
| <u>≈2.42</u> | |
38. Adjust Gen. 2 to 207.67 MHz _____.
39. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:
- | | |
|------------------------|-------------------------------|
| <u>FREQUENCY (MHz)</u> | <u>GENERATOR LEVEL (dBmV)</u> |
| <u>≈2.42</u> | |
40. Adjust Gen. 2 for 203.75 MHz and 21.4 dBmV output _____.
(+3.0 dBmV, lower channel Aural at EUT.)
41. Verify 203.75 MHz level at TP1 ≈ -9.5 dBmV _____.
42. Verify 205.25 MHz level at TP1 ≈ - 2.7 dBmV _____.
43. Adjust VM 700A to monitor the EUT's baseband Frequency

Spectrum, Field 1, Line 16 _____.

44. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)

EMISSION LEVEL (dBmV)

≈1.50

45. Adjust Gen. 2 to 206.75 MHz _____.
46. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)

GENERATOR LEVEL (dBmV)

≈1.50

47. Adjust Gen. 2 for 211.25 MHz and 31.8 dBmV output _____.
(+13.0 dBmV, upper channel Video at EUT.)
48. Verify 211.25 MHz level at TP1 ≈ +0.1 dBmV _____.
49. Verify 205.25 MHz level at TP1 ≈ -2.7 dBmV _____.
50. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.

51. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)

EMISSION LEVEL (dBmV)

≈3.00

52. Adjust Gen. 2 to 208.25 MHz _____.
53. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)

GENERATOR LEVEL (dBmV)

≈3.00

54. Set Baseband Generator and Modulator for Channel 53, 10 IRE

55. Set Modulator Attenuator for 20.2 dB _____.
(+10 dBmV Video, and 0 dBmV Aural at EUT.)

56. Adjust Gen. 2 for 394.83 MHz and 17.8 dBmV output _____.
(-2.0 dBmV, lower channel Color at EUT.)

57. Verify 394.83 MHz level at TP1 ≈ -13.6 dBmV _____.
58. Verify 397.25 MHz level at TP1 ≈ - 2.2 dBmV _____.
59. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.

60. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)

EMISSION LEVEL (dBmV)

≈2.42

61. Adjust Gen. 2 to 399.67 MHz _____.
62. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)

GENERATOR LEVEL (dBmV)

≈2.42

63. Adjust Gen. 2 for 395.75 MHz and 23.0 dBmV output _____.

- (+3.0 dBmV, lower channel Aural at EUT.)
64. Verify 395.75 MHz level at TP1 \approx - 9.1 dBmV ____.
65. Verify 397.25 MHz level at TP1 \approx - 2.2 dBmV ____.
66. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 ____.

67. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

<u>FREQUENCY (MHz)</u>	<u>EMISSION LEVEL (dBmV)</u>
<u>\approx1.50</u>	_____

68. Adjust Gen. 2 to 398.75 MHz ____.
69. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

<u>FREQUENCY (MHz)</u>	<u>GENERATOR LEVEL (dBmV)</u>
<u>\approx1.50</u>	_____

70. Adjust Gen. 2 for 403.25 MHz and 33.9 dBmV output ____.
(+13.0 dBmV, upper channel Video at EUT.)
71. Verify 403.25 MHz level at TP1 \approx + 1.1 dBmV ____.
72. Verify 397.25 MHz level at TP1 \approx - 2.2 dBmV ____.
73. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 ____.

74. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

<u>FREQUENCY (MHz)</u>	<u>EMISSION LEVEL (dBmV)</u>
<u>\approx3.00</u>	_____

75. Adjust Gen. 2 to 400.25 MHz ____.
76. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

<u>FREQUENCY (MHz)</u>	<u>GENERATOR LEVEL (dBmV)</u>
<u>\approx3.00</u>	_____

77. Set Baseband Generator and Modulator for Channel 74 (82), 10 IRE ____.

78. Set Modulator Attenuator for 18.9 dB ____.
(+10 dBmV Video, and 0 dBmV Aural at EUT.)

79. Adjust Gen. 2 for 520.83 MHz and 19.1 dBmV output ____.
(-2.0 dBmV, lower channel Color at EUT.)

80. Verify 520.83 MHz level at TP1 \approx -13.5 dBmV ____.

81. Verify 523.25 MHz level at TP1 \approx - 1.3 dBmV ____.

82. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 ____.

83. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

<u>FREQUENCY (MHz)</u>	<u>EMISSION LEVEL (dBmV)</u>
<u>\approx 2.42</u>	_____

84. Adjust Gen. 2 to 525.67 MHz ____.

85. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)

≈2.42

GENERATOR LEVEL (dBmV)

86. Adjust Gen. 2 for 521.75 MHz and 24.8 dBmV output _____.
(+3.0 dBmV, lower channel Aural at EUT.)
87. Verify 521.75 MHz level at TP1 ≈ - 7.9 dBmV _____.
88. Verify 523.25 MHz level at TP1 ≈ - 1.3 dBmV _____.
89. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.

90. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)

≈1.50

EMISSION LEVEL (dBmV)

91. Adjust Gen. 2 to 524.75 MHz _____.
92. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)

≈1.50

GENERATOR LEVEL (dBmV)

93. Adjust Gen. 2 for 529.25 MHz and 34.3 dBmV output _____.
(+13.0 dBmV, upper channel Video at EUT.)
94. Verify 529.25 MHz level at TP1 ≈ +1.1 dBmV _____.
95. Verify 523.25 MHz level at TP1 ≈ -1.3 dBmV _____.
96. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.

97. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)

≈3.00

EMISSION LEVEL (dBmV)

98. Adjust Gen. 2 to 526.25 MHz _____.
99. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)

≈3.00

GENERATOR LEVEL (dBmV)

**IMAGE CHANNEL REJECTION
DATA SHEET**

EUT #: _____ Date: _____ EUT Type: _____

(Note: System Attenuator set to 0 dB.
Spectrum Analyzer settings: RES Bw = 300 kHz,
VBw = 3 MHz.)

CALIBRATING THE VM 700A

1. Verify test system as shown in Figure C _____.
2. Verify Matrix Generator is OFF _____.
3. Verify Gen. 1 is OFF _____.
4. Turn on EUT and select for Channel 3 operation.
5. Set BB Generator and Modulator for Channel #3 and 100 IRE _____.
6. Set Modulator Attenuator for 21.5 dB _____.
7. Normalize the baseband input to the VM 700A, 140 IRE, using the Normalizing Amplifier, and the "WAVEFORM" selection on the VM 700A.

INITIAL CALIBRATION and MEASUREMENTS:

8. Set Baseband Generator and Modulator for Channel 3, 10 IRE _____.
9. Set Modulator Attenuator for 32.7 dB _____.
(0 dBmV Video, and -10 dBmV Aural at EUT.)
10. Adjust Gen. 2 for 151.25 MHz and +31.1 dBmV output _____.
(+13 dBmV, Image channel at EUT.)
11. Verify 151.25 MHz level at TP1 = - 0.2 dBmV _____.
12. Verify 61.25 MHz level at TP1 = -12.9 dBmV _____.
13. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.
14. From the VM 700A, measure the image channel component within the baseband and record its amplitude:

<u>FREQUENCY (MHz)</u>	<u>EMISSION LEVEL (dBmV)</u>
<u>≈1.50</u>	_____
15. Adjust Gen. 2 to 62.75 MHz _____.
16. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

<u>FREQUENCY (MHz)</u>	<u>GENERATOR LEVEL (dBmV)</u>
<u>≈1.50</u>	_____
17. Set Baseband Generator and Modulator for Channel 12, 10 IRE _____.
18. Set Modulator Attenuator for 34.0 dB _____.
(0 dBmV Video, and -10 dBmV Aural at EUT.)
19. Adjust Gen. 2 for 295.25 MHz and +32.5 dBmV output _____.
(+13.0 dBmV, image channel at EUT.)
20. Verify 295.25 MHz level at TP1 = + 0.3 dBmV _____.
21. Verify 205.25 MHz level at TP1 = -12.3 dBmV _____.

22. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.

23. From the VM 700A, measure the image channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)
≈1.50

EMISSION LEVEL (dBmV)

24. Adjust Gen. 2 to 206.75 MHz _____.

25. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)
≈1.50

GENERATOR LEVEL (dBmV)

26. Set Baseband Generator and Modulator for Channel 53, 10 IRE _____.

27. Set Modulator Attenuator for 30.0 dB _____.
(0 dBmV Video, and -10 dBmV Aural at EUT.)

28. Adjust Gen. 2 for 487.25 MHz and +34.1 dBmV output _____.
(+13 dBmV, image channel at EUT.)

29. Verify 487.25 MHz level at TP1 ≈ + 0.8 dBmV _____.

30. Verify 397.25 MHz level at TP1 ≈ -11.3 dBmV _____.

31. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.

32. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)
≈1.50

EMISSION LEVEL (dBmV)

33. Adjust Gen. 2 to 398.75 MHz _____.

34. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)
≈1.50

GENERATOR LEVEL (dBmV)

35. Set Baseband Generator and Modulator for Channel 74 (82), 10 IRE _____.

36. Set Modulator Attenuator for 28.9 dB _____.
(0 dBmV Video, and -10 dBmV Aural at EUT.)

37. Adjust Gen. 2 for 613.25 MHz and +34.6 dBmV output _____.
(+13 dBmV, image channel at EUT.)

38. Verify 613.25 MHz level at TP1 ≈ + 1.3 dBmV _____.

39. Verify 523.25 MHz level at TP1 ≈ -10.7 dBmV _____.

40. Adjust VM 700A to monitor the EUT's baseband Frequency Spectrum, Field 1, Line 16 _____.

41. From the VM 700A, measure the adjacent channel component within the baseband and record their frequencies and emissions:

FREQUENCY (MHz)
≈1.50

EMISSION LEVEL (dBmV)

42. Adjust Gen. 2 to 524.75 MHz _____.

43. Adjust Gen. 2 output to match the amplitude recorded above and record Gen. 2 output level:

FREQUENCY (MHz)
≈1.50

GENERATOR LEVEL (dBmV)

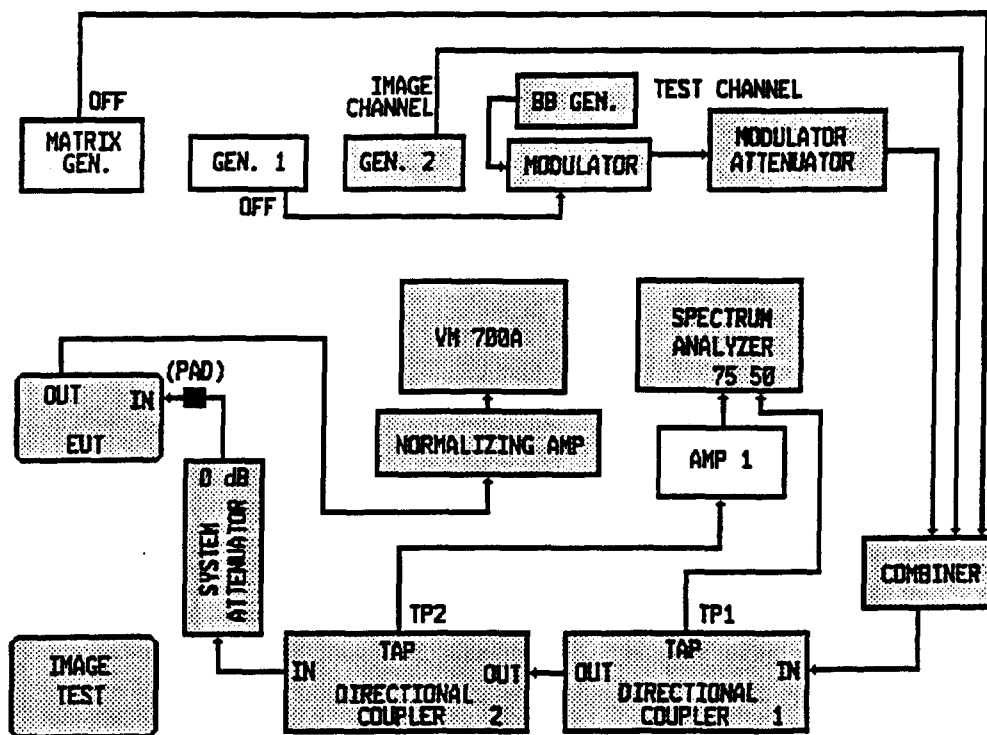
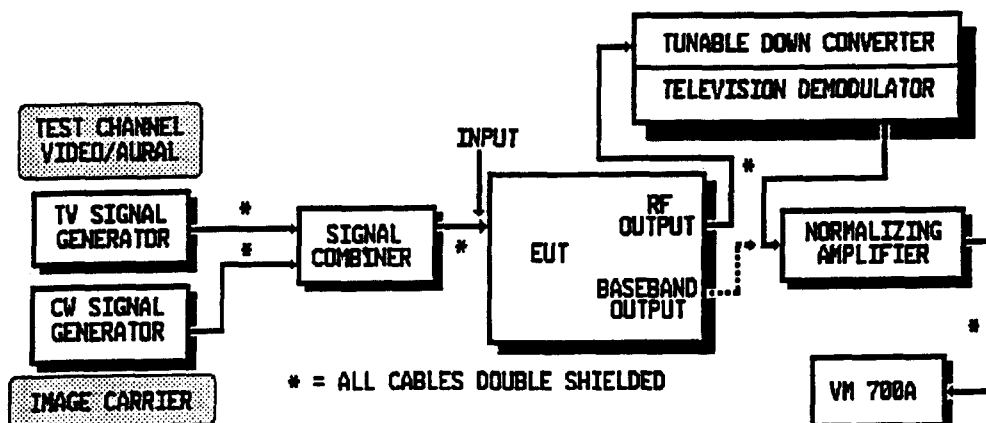


FIGURE C

IMAGE REJECTION



TEST CHANNELS:

- CHANNEL 3 - 61.25 MHz
- CHANNEL 12 - 205.25 MHz
- CHANNEL 53 - 397.25 MHz
- CHANNEL 74 - 523.25 MHz

IMAGE FREQUENCIES (CW):

- 151.25 MHz
- 295.25 MHz
- 487.25 MHz
- 613.25 MHz

TEST AMPLITUDES:

- VIDEO = 0 dBmV
- AURAL = -18 dBmV
- IMAGE = +13 dBmV

FIGURE 13